

AMENDMENT TO THE CLAIMS

1. (Canceled).

2. (Currently Amended) An illegal copy finding system finding an illegal copy of an optical disc on which data and a BCA code are recorded, comprising:

a recording apparatus recording on the optical disc the BCA code constituted by a plurality of marks and including a secret code which is modulated in accordance with a previously determined procedure and the secret code forms an undulation with respect to the BCA code in a range capable of recognizing a recording position in a radial direction of the optical disc and /or a position in a track direction of said plurality of marks as the BCA code;

a BCA history database storing a history including a correspondence between the BCA code of the optical disc recording said BCA code and the secret code; and

a management center reading the BCA code and the secret code recorded on the optical disc so as to compare both on the basis of an input of the correspondence between the BCA code and the secret code stored in said BCA history database;

an optical head irradiating a laser spot light on the optical disc;

a BCA code memory for forming the BCA code constituted by a plurality of marks in the track direction by said laser spot light;

a secret code memory storing a secret code modulated in accordance with a previously determined procedure in a range capable of recognizing positions in the radial direction of the optical disc and positions in the track direction of a plurality of marks forming the BCA code as the BCA code, with respect to the BCA code stored in said BCA code memory; and

a microprocessor controlling the BCA code and the secret code with respect to said optical head output control portion, and

wherein said microprocessor constitutes an optical disc manufacturing apparatus or a BCA code recording apparatus which records the BCA code including the secret code on the optical disc surface by modulating the BCA code by using the secret code stored in said secret code memory while moving an optical head in the radial direction of the optical disc.

3. (Currently Amended) An illegal copy finding method of finding an illegal copy of an optical disc on which data and a BCA code are recorded, comprising:

a recording step of recording on the optical disc the BCA code constituted by a plurality of marks and forming an undulating secret code with respect to the BCA code which is modulated in accordance with a previously determined procedure in a range capable of recognizing a recording position in a radial direction of the optical disc and/or a position in a track direction of said plurality of marks as the BCA code;

a storing step of storing a history including a correspondence between the BCA code of the optical disc recording said BCA code and the secret code in a BCA history database; and

a comparing step of reading the BCA code and the secret code recorded on the optical disc so as to compare both on the basis of an input of the correspondence between the BCA code and the secret code stored in said BCA history database;

an optical head irradiating a laser spot light on the optical disc;

a BCA code memory for forming the BCA code constituted by a plurality of marks in the track direction by said laser spot light;

a secret code memory storing a secret code modulated in accordance with a previously determined procedure in a range capable of recognizing positions in the radial direction of the optical disc and positions in the track direction of a plurality of marks forming the BCA code as the BCA code, with respect to the BCA code stored in said BCA code memory; and

a microprocessor controlling the BCA code and the secret code with respect to said optical head output control portion, and

wherein said microprocessor constitutes an optical disc manufacturing apparatus or a BCA code recording apparatus which records the BCA code including the secret code on the optical disc surface by modulating the BCA code by using the secret code stored in said secret code memory while moving an optical head in the radial direction of the optical disc.

4-9. (Canceled).

10. (Currently Amended) An illegal copy finding system finding an illegal copy of an optical disc on which data and a BCA code are recorded, comprising:

a recording apparatus recording on the optical disc the BCA code constituted by a plurality of marks and including a secret code which is modulated in accordance with a previously determined procedure and the secret code forms an undulation with respect to the BCA code in a range capable of recognizing a length in a radial direction of the optical disc and/or a width in a track direction of said plurality of marks as the BCA code;

a BCA history database storing a history including a correspondence between the BCA code of the optical disc recording said BCA code and the secret code; and

a management center reading the BCA code and the secret code recorded on the optical disc so as to compare both on the basis of an input of the correspondence between the BCA code and the secret code stored in said BCA history database;

an optical head irradiating a laser spot light on the optical disc;

a BCA code memory for forming the BCA code constituted by a plurality of marks in the track direction by said laser spot light;

a secret code memory storing a secret code modulated in accordance with a previously determined procedure in a range capable of recognizing positions in the radial direction of the optical disc and positions in the track direction of a plurality of marks forming the BCA code as the BCA code, with respect to the BCA code stored in said BCA code memory; and

a microprocessor controlling the BCA code and the secret code with respect to said optical head output control portion, and

wherein said microprocessor constitutes an optical disc manufacturing apparatus or a BCA code recording apparatus which records the BCA code including the secret code on the optical disc surface by modulating the BCA code by using the secret code stored in said secret code memory while moving an optical head in the radial direction of the optical disc.

11. (Currently Amended) An illegal copy finding method of finding an illegal copy of an optical disc on which data and a BCA code are recorded, comprising:

a recording step of recording on the optical disc the BCA code constituted by a plurality of marks and including a secret code which is modulated in accordance with a previously determined procedure and the secret code forms an undulation with respect to the BCA code in a range capable of recognizing a length in a radial direction of the optical disc and/or a width in a track direction of said plurality of marks as the BCA code;

a storing step of storing a history including a correspondence between the BCA code of the optical disc recording said BCA code and the secret code in a BCA history database; and

a comparing step of reading the BCA code and the secret code recorded on the optical disc so as to compare on the basis of an input of the correspondence between the BCA code and the secret code stored in said BCA history database;

an optical head irradiating a laser spot light on the optical disc;

a BCA code memory for forming the BCA code constituted by a plurality of marks in the track direction by said laser spot light;

a secret code memory storing a secret code modulated in accordance with a previously determined procedure in a range capable of recognizing positions in the radial direction of the optical disc and positions in the track direction of a plurality of marks forming the BCA code as the BCA code, with respect to the BCA code stored in said BCA code memory; and

a microprocessor controlling the BCA code and the secret code with respect to said optical head output control portion, and

wherein said microprocessor constitutes an optical disc manufacturing apparatus or a BCA code recording apparatus which records the BCA code including the secret code on the optical disc surface by modulating the BCA code by using the secret code stored in said secret code memory while moving an optical head in the radial direction of the optical disc.

14. (Original) An illegal copy finding system as claimed in claim 10, wherein said recording apparatus comprises:

an optical head irradiating a laser spot light on the optical disc;

a BCA code memory for forming the BCA code constituted by a plurality of marks in the track direction by said laser spot light;

a secret code memory storing a secret code modulated in accordance with a previously determined procedure in a range capable of recognizing the lengths in the radial direction of the optical disc and/or the widths in the track direction of a plurality of marks forming the BCA code as the BCA code, with respect to the BCA code stored in said BCA code memory; and

a microprocessor controlling the BCA code and the secret code with respect to said optical head output control portion, and

wherein said microprocessor constitutes an optical disc manufacturing apparatus or a BCA code recording apparatus which records the BCA code including the secret code on the optical disc surface by modulating the BCA code by using the secret code stored in said secret code memory while moving an optical head in the radial direction of the optical disc.

15-17 (Canceled).

18. (Original) An illegal copy finding method as claimed in claim 3 or 11, wherein said recording step includes a step of recording the BCA code including the secret code on the optical disc surface by modulating the BCA code by using the secret code stored in said secret code memory while moving the optical head in the radial direction of the optical disc.

19-20 (Canceled).

21. (Currently Amended) An illegal copy finding system as claimed in claim 2, [[6,]] 10 or 14, wherein the marks of said BCA code are constituted by a plurality of bars extending in the radial direction of the optical disc, a width of said bar, a position of said bar in the radial direction of the optical disc, a distance between an

innermost peripheral end side and an outermost peripheral end side on the basis of a rotation center of the optical disc, a distance between centers of said bar in the disc track direction, and a distance between bar starting ends are standardized, and the secret code is included in the BCA code by changing said bar recording position within said plurality of standards.

22. (Original) An illegal copy finding method as claimed in claim 3 or 11, wherein the marks of said BCA code are constituted by a plurality of bars extending in the radial direction of the optical disc, a width of said bar, a position of said bar in the radial direction of the optical disc, a distance between an innermost peripheral end side and an outermost peripheral end side on the basis of a rotation center of the optical disc, a distance between centers of said bar in the disc track direction, and a distance between bar starting ends are standardized, and the secret code is included in the BCA code by changing said bar recording position within said plurality of standards.

23. (Original) An illegal copy finding method as claimed in claim 18, wherein the marks of said BCA code are constituted by a plurality of bars extending in the radial direction of the optical disc, a width of said bar, a position of said bar in the radial direction of the optical disc, a distance between an innermost peripheral end side and an outermost peripheral end side on the basis of a rotation center of the optical disc, a distance between centers of said bars in the disc track direction, and a distance between bar starting ends are standardized, and the secret code is included in the BCA code by changing said bar recording position within said plurality of standards.

24-25. (Canceled).

26. (New) An illegal copy finding system finding an illegal copy of an optical disc on which data and a BCA code are recorded, comprising:

a recording apparatus recording on the optical disc the BCA code modulated from BCA information as a plurality of marks and adding a secret code to said BCA code in addition to the modulation of the BCA information, said secret code including

a changed position in a radial direction and/or a changed position in a track direction of said optical disc concerning said plurality of marks in a range of recognizing said BCA code;

a BCA history database storing a history including a correspondence between the BCA code of the optical disc recording said BCA code and the secret code; and

a management center reading the BCA code and the secret code recorded on the optical disc so as to compare both on the basis of an input of the correspondence between the BCA code and the secret code stored in said BCA history database.

27. (New) An illegal copy finding method of finding an illegal copy of an optical disc on which data and a BCA code are recorded, comprising:

a recording step of recording on the optical disc the BCA code modulated from BCA information as a plurality of marks and adding a secret code to said BCA code in addition to the modulation of the BCA information, said secret code including a changed position in a radial direction and/or a changed position in a track direction of said optical disc concerning said plurality of marks in a range of recognizing said BCA code;

a storing step of storing a history including a correspondence between the BCA code of the optical disc recording said BCA code and the secret code in a BCA history database; and

a comparing step of reading the BCA code and the secret code recorded on the optical disc so as to compare both on the basis of an input of the correspondence between the BCA code and the secret code stored in said BCA history database.

28. (New) An illegal copy finding system finding an illegal copy of an optical disc on which data and a BCA code are recorded, comprising:

a recording apparatus recording on the optical disc the BCA code modulated from BCA information as a plurality of marks and adding a secret code to said BCA code in addition to the modulation of the BCA information, said secret code including a changed length in a radial direction and/or a changed width in a track direction of said optical disc concerning said plurality of marks in a range of recognizing said BCA code;

a BCA history database storing a history including a correspondence between

the BCA code of the optical disc recording said BCA code and the secret code; and
a management center reading the BCA code and the secret code recorded on the optical disc so as to compare both on the basis of an input of the correspondence between the BCA code and the secret code stored in said BCA history database.

29. (New) An illegal copy finding method of finding an illegal copy of an optical disc on which data and a BCA code are recorded, comprising:

a recording step of recording on the optical disc the BCA code modulated from BCA information as a plurality of marks and adding a secret code to said BCA code in addition to the modulation of the BCA information, said secret code including a changed length in a radial direction and/or a changed width in a track direction of said optical disc concerning said plurality of marks in a range of recognizing said BCA code;

a storing step of storing a history including a correspondence between the BCA code of the optical disc recording said BCA code and the secret code in a BCA history database; and

a comparing step of reading the BCA code and the secret code recorded on the optical disc so as to compare on the basis of an input of the correspondence between the BCA code and the secret code stored in said BCA history database.

30. (New) An illegal copy finding system finding an illegal copy of an optical disc on which data and a BCA code are recorded, comprising:

a recording apparatus having a function to record on an optical disc a BCA code modulated from a BCA information as a plurality of marks, and adding a secret code, in which positions in an optical disc radial direction and/or positions in a track direction of said marks are changed, within a range of being recognizable as the BCA code in addition to the modulation of the BCA code at a time of the modulation;

a BCA history database storing a history including a correspondence between the BCA code of the optical disc recording said BCA code and the secret code; and

a management center reading the BCA code and the secret code recorded on the optical disc so as to compare both on the basis of an input of the correspondence between the BCA code and the secret code stored in said BCA history database.

31. (New) An illegal copy finding method of finding an illegal copy of an optical disc on which data and a BCA code are recorded, comprising:

a recording step of recording on an optical disc a BCA code modulated from a BCA information as a plurality of marks, and adding a secret code, in which positions in an optical disc radial direction and/or positions in a track direction of said marks are changed, within a range of being recognizable as the BCA code in addition to the modulation of the BCA code at a time of the modulation;

a storing step of storing a history including a correspondence between the BCA code of the optical disc recording said BCA code and the secret code in a BCA history database; and

a comparing step of reading the BCA code and the secret code recorded on the optical disc so as to compare both on the basis of an input of the correspondence between the BCA code and the secret code stored in said BCA history database.